Appendix C: Emissions Reductions

A key benefit of energy efficiency programs is the reduction in CO2, NOX, and particulate emissions (PM) that would have otherwise occurred. The CPUC uses an emissions rate for electric and gas savings that is dependent on the type of installed technology. The calculations for each technology are embedded in the Commission adopted cost effectiveness calculation1 and, subsequently, the cost effectiveness tools that Energy Division uses to estimate portfolio impacts.

Note that these estimated emissions reductions represent the annual impact of the energy efficient technologies when they are installed and operating -- the lifecycle impacts, if these technologies remain in place for their expected useful life will be significantly higher.

Consistent with Commission policy in place for the 2010–2012 program cycle, the value of the carbon emission reductions is included in the benefits

Electric:

$ER[CO_2]_M$ = Emission rate of CO_2 in tons per kWh of measure ***M***.

Gas:

$ER[CO_2]_{GCT}$ = Emission rate of CO_2 in tons per therm, based on the gas combustion type (GCT) specified on the input sheet for the measure.

Emissions Impacts by IOU

During the 2010-2012 cycle, IOU customers' energy efficiency activities reduced emissions by an estimated 4.3 million tons of CO2, 1.2 million pounds of NOx and more than one-half million pounds of PM–10. Nearly two–thirds of these emissions reductions were the direct result of the program intervention.[2]

side of the calculation of the Total Resource Cost and Program Administrator Cost tests at $30 /ton averaged over time. The avoided air permitting costs embedded in the avoided energy costs are used as a proxy for the benefit resulting from avoiding the other priority pollutant emissions.

1 CPUC Energy Efficiency Policy Manual Version 5, p.50.t

2 Since approximately one-third of program savings are estimated to result from program "free riders" who would have taken the efficiency action without the programs.

Table C-1 Evaluated Emissions Reductions by IOU*†

IOU		Electric			Gas	
		CO_2 (1,000 tons)	NOx (pounds)	PM10 (pounds)	CO_2 (1,000 tons)	NOx (pounds)
PGE	Gross	1,826,929	486,335	235,633	311,367	489,672
	Net	1,120,238	297,938	144,520	159,784	251,284
SCG	Gross				647,508	1,018,303
	Net				362,837	570,615
SDGE	Gross	352,538	94,176	45,428	51,101	80,364
	Net	213,185	56,944	27,472	27,128	42,662
SCE	Gross	2,157,549	577,575	277,869		
	Net	1,421,279	380,446	183,049		
Portfolio	Gross	4,337,017	1,158,086	558,930	1,009,976	1,588,339
	Net	2,754,702	735,329	355,041	549,748	864,561

** Note: Does not include C&S or Low Income data*

† Note: CO_2 is reported in 1,000 tons; NOx and PMs are reported in pounds.